An Examination of the Effects of Locus of Control on Perceptions of Core Job Dimensions and Job Satisfaction

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ABSTRACT

This study examined the moderating effects of locus of control on core job dimensions (skill variety, task identity, task significance, autonomy, feedback) and job satisfaction. Survey data were collected from 1995 educators in Southern Ontario.

When core job dimensions were perceived to be high, job satisfaction scores were high. The converse relationship was also true; when core job dimensions were perceived to be low, job satisfaction scores were also low.

As well, the investigation explored the effect of educators' locus of control of reinforcement on the relationship between core job dimensions and job satisfaction. Internals (N = 483-486) perceived more skill variety, more task identity, more task significance, more autonomy, more feedback and greater job satisfaction than externals (N = 626-629).

However, contrary to expectation, the correlations between specific core job dimensions namely autonomy and feedback, were not systematically greater for internals compared to externals.

In addition the findings reported here suggest some appropriate directions and strategies for measuring and increasing job satisfaction among teachers.

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CHAPTER I

INTRODUCTION

Personal characteristics of the individual employee have been the focus of previous contingency theories of management. One such characteristic, locus of control, a personal attribute, has been the focus of research by Rotter (1966, 1975) for a number of years. He defined locus of control as the individual's predisposition to attribute outcomes to his own behaviour or actions or to forces beyond his control. Individuals who generally perceive that events are contingent upon their own behaviour are said to possess a relatively internal locus of control. On the other hand, individuals who typically attribute events to factors such as luck or chance or powerful others, that is, factors other than their own behaviour, are said to possess a relatively external locus of control.

An internal locus of control of reinforcement reflects a tendency to influence one's environment in an active manner. Internals tend to perceive that success results from personal endeavour and hard work and that failure is an individual responsibility. The individual's expectancy that effort leads to success is crucial in generating power or initiative to work. Thus locus of control is a construct that appears to capture the essence of the individual's perception of his degree of personal power which enables him to produce a desired or intended result. One outcome of work which appears to this researcher to be of critical importance is job satisfaction. The implied relationship between the internal's propensity to actively affect his environment, his perceived degree of personal power, and his level of job satisfaction bears

investigation.

Additional variables of interest to the researcher are job design and various job components. The Job Diagnostic Survey (Hackman and Oldham, 1975) was developed to be used in the diagnosis of jobs prior to their redesign, and in research and evaluation activities aimed at assessing the outcomes of job redesign on the employees who do such jobs. Hackman and Oldham developed a specific, systematic theory to explain the impact of job enrichment on satisfaction and performance. The conceptual basis for the Job Diagnostic Survey is relatively simple. Five "core job dimensions", which have been defined and tested (Hackman and Lawler, 1971), create in the employee specified "critical psychological states" that result in a number of personal and work outcomes, one of which is job satisfaction. As well, the core job dimensions are combined in a theoretical equation to yield a Motivating Potential Score which can be used as a predictor of job satisfaction.

There are several reasons to study job satisfaction in the educational setting. Firstly, levels of job satisfaction are never static, rather they are dynamic responses to one's job at a given period of time. Job satisfaction presumes the ability to balance the specific satisfactions against the specific dissatisfactions and thus arrive at a composite satisfaction response to the job in its entirety.

Secondly, job satisfaction may be viewed in terms of the degree of discrepancy between what is expected and what is achieved, both on a personal and professional level. Expectation and achievement fluctuate over time, as do perceptions of job satisfaction. Some of the fluctuation is dependent upon the context of the work environment. The very nature

and funding of teaching positions render them vulnerable to public opinion and pressure. Public and personal expectations of teacher performance and outcomes may be adversely affected by increased class sizes and reduced school budgets. Internal and external environmental pressures might therefore lower levels of job satisfaction among educators.

Thirdly, job satisfaction might be viewed as an end in itself. If life is to be satisfying, one's job, which is central to one's life as well as one's physical and mental health, must also be satisfying. Historically, today more than ever, there is concern for the quality of life and the context in which people must work. This concern extends itself to encompass those social and economic institutions which affect the physical and psychological well-being of employees.

The purpose of the present study is to explore the influence of employees' locus of control on core job dimensions, intervening critical psychological states and job satisfaction in the educational setting. It is proposed that locus of control will moderate the relationship between core job dimensions, the resulting critical psychological states and job satisfaction.

CHAPTER II

REVIEW OF THE LITERATURE

Definitions

For the purpose of the present study, a theoretical model by Hackman and Oldham (1975), provides a compact visual means of examining and testing a number of considerations about teaching jobs. Although the model was not developed for this purpose specifically, it appears to be highly suitable. As Hackman and Oldham (1980) point out, the Job Diagnostic Survey can be used for most jobs in almost any kind of organization. It has been used with blue-collar, white-collar, service and public organizations. Therefore, the terms and equation developed by Hackman and Oldham (1975, pp. 161-162) have been accepted and utilized in the present study. They are outlined below.

Core Job Dimensions

Skill Variety

The degree to which a job requires a variety of different activities in carrying out the work, which involves the use of a number of different skills and talents of the employee.

Task Identity

The degree to which the job requires completion of a "whole" and identifiable piece of work - that is, doing a job from beginning to end with a visible outcome.

Task Significance

The degree to which the job has substantial impact on the lives or work of other people - whether in the immediate organization or in the external environment.

Autonomy

The degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out.

Feedback from the Job Itself

The degree to which carrying out the work activities required by the job results in the employee obtaining direct and clear information about the effectiveness of his or her performance.

Feedback from Agents

The degree to which the employee receives clear information about his or her performance from supervisors or from co-workers.

Critical Psychological States

Experienced Meaningfulness of the Work - is the degree to which the employee experiences the job as one which is generally meaningful, valuable, and worthwhile.

Experienced Responsibility for Work Outcomes - is the degree to which the employee feels personally accountable and responsible for the results of the work he or she does.

Knowledge of the Results - is the degree to which the employee knows and understands, on a continuous basis, how effectively he or she is performing the job.

FIGURE 1

Motivating Potential Score (M.P.S.) Equation =

$$\left(\frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \right) \times (\text{Autonomy}) \times (\text{Feedback})$$

Personal and Work Outcome - Hoppock's (1935, p. 47) definition of job satisfaction was also used. It is outlined below.

Job Satisfaction - is "any combination of psychological, physiological, and environmental circumstances that cause a person truthfully to say, 'I am satisfied with my job'."

The Variables

Theoretical and research findings from the social sciences and industrial sectors were utilized to develop the study's theoretical framework. Primary among these were the measurement tools the Job Diagnostic Survey (Hackman and Oldham, 1975), Rotter's (1966) locus of control scale and Hoppock's (1935) measure of job satisfaction.

The theory which gave rise to the Job Diagnostic Survey is based on earlier work by Turner and Lawrence (1965) and by Hackman and Lawler (1971). The basic premise is that positive personal and work outcomes are obtained when three "critical psychological states" are present for a given employee. The personal and work outcomes may be classified as subjective or objective. Specifically the "subjective" personal and work outcomes are defined as general satisfaction or the degree to which the employee is satisfied or happy with the job, and internal work motivation, the degree to which the employee is self-motivated to perform effectively on the job (Hackman and Oldham, 1975). The effective employee, by definition, experiences positive internal feelings when working effectively on the job and negative internal feelings when doing poorly. The "objective" personal and work outcomes are high quality work performance, low absenteeism and turnover.

The Job Diagnostic Survey does not measure the actual work

workcomes which are labelled "objective" outcomes; however, it does measure the "subjective" outcomes.

The critical psychological states are described as: experienced meaningfulness of the work, experienced responsibility for the outcomes of the work and knowledge of the results of the work activities (Hackman and Oldham, 1975). The theory postulates that all three critical psychological states must be present for the positive personal and work outcomes to be realized.

In essence, the critical psychological states are generated by the presence of five "core" job dimensions. These core job dimensions are computed to create a summary score which reflects the overall "motivating potential" of a job. The equation is illustrated in Figure 1.

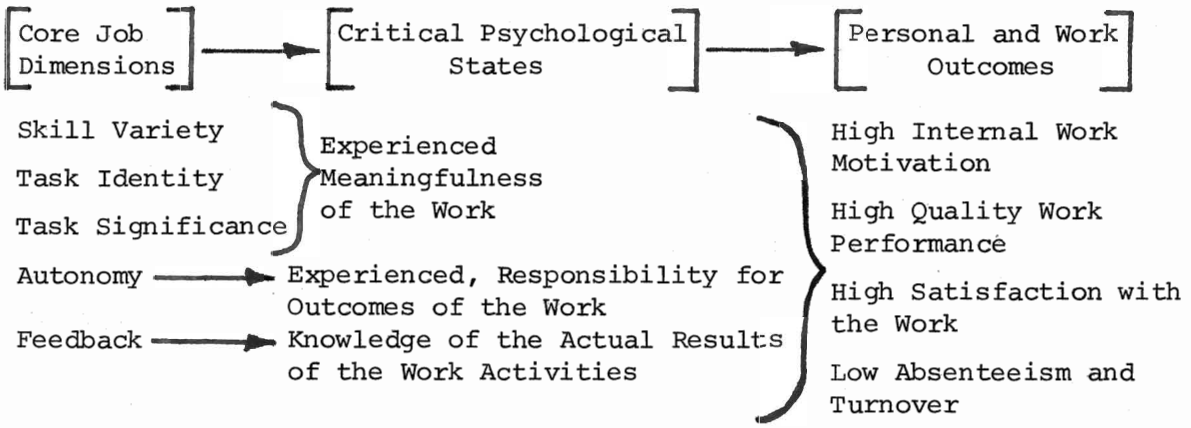
The present research is based on the theoretical model by Hackman and Oldham (1975), relating core job dimensions, critical psychological states and on-the-job outcomes. Hackman and Oldham (1975) proposed that an employees' "growth need strength" would modify the theory specified relationships illustrated in Figure 2. Growth need strength was defined as the degree to which an employee values and desires personal feelings of accomplishment and growth (Hackman and Oldham, 1975, p. 160).

In the present study, the relationships presented in the theoretical model illustrated in Figure 2 have been accepted. Hackman and Oldham's (1975) definitions of core job dimensions and intervening critical psychological states specified in the model and previously defined, have also been accepted. The personal and work outcomes illustrated and tested by Hackman and Oldham (1975) have been simplified

for the purpose of the present investigation. Only one outcome was tested, job satisfaction, using an independent measuring tool proposed by Hoppock (1935).

Rotter's (1966) locus of control I-E scale had its conceptual basis in social learning theory. The four classes of variables described in social learning theory are: behaviours, expectancies, reinforcement and psychological situations. In its most rudimentry form, the formula for behaviour is that the potential for a behaviour to occur in any specific psychological situation is a function of the expectancy that the behaviour will lead to a particular reinforcement in that situation and the value of that reinforcement (Rotter, 1975).

FIGURE 2



(Hackman and Oldham, 1975)

Studies by Joe (1971) support Rotter's contention that the internal-external locus of control concept is a generalized expectancy operating across many situations. Rotter's (1966) locus of control I-E scale measures the degree to which an individual attributes events and outcomes in his or her environment to their own behaviour, or factors other than their own behaviour. Individuals who generally perceive

contingency relationships between their behaviour or actions and outcomes are said to possess a relatively internal locus of control. On the other hand, individuals who generally attribute events to factors beyond their own control, for example fate, luck, chance, or powerful others, are said to possess an external locus of control.

Locus of control, viewed as a personal psychological variable, is an integral part of personality and therefore relatively consistent and fixed. Research by Phares (1957), James (1957), Crowne and Marlowe (1964) and Rotter (1966) establish locus of control as a personality variable of significant importance.

However, locus of control, a generalized expectancy, is only one of the many variables that enter into the prediction of behaviour. Two other variables of primary importance are the value of the reinforcement and the psychological situation.

Locus of control studies have been administered to children in appropriately revised form. Whether or not locus of control changes or a particular orientation is intensified over time is speculative as no longitudinal studies of this dimension exist. However, learning theory would tend to support the stable or intensified view for older children and adults.

The theory which gave rise to the job satisfaction measure used in the present study is attributed to Hoppock (1935). His definition of job satisfaction appears on page 6.

It was not the purpose of Hoppock's (1935) investigation to construct a scale to measure job satisfaction. However, because such a scale would be useful in future research, Hoppock did indicate in considerable detail how far his study had progressed in this direction.

Hoppock's original measure consisted of direct questions related to various aspects of satisfaction with a person's job. The questions used in the present study are identical to those used by McNichols, Stahl and Manley (1978). These researchers used Hoppock's original statements with only minute variations to meet the requirements of the variety of populations these authors sampled.

Theory and Related Research

A computer search of the Psychological Abstracts, of Inform and of Eric failed to disclose any research studies specifically relating the three variables under investigation. A variety of search indicators were selected for this purpose, job design, core job dimensions, job satisfaction and motivation, and locus of control. The negative results of the computer search necessitated a review of the research literature on each variable independently, or in the framework of a slightly different focus.

Current research provides no specific theory or model directly linking the three variables under investigation in this study. Despite this drawback, the aforementioned variables and the model by Hackman and Oldham (1975), together with a limited number of related research findings provide the rationale for this study.

Even a job inherently high in motivating potential will not be perceived to have the same motivating potential by all employees. Within teaching, as within other jobs, there will exist variations in the scores attributed to each item in the M.P.S. equation.

Miskel et al. (1975), in their introductory statements, postulate that the rewards for teaching usually have been viewed in terms of the

work itself. This position is supported by Lortie (1969). Research by Sergiovanni (1967) is also supportive in that he found that factors accounting for positive attitudes among educators relate primarily to the work itself, while factors accounting for negative attitudes were attributed to the conditions of the work. In short, it is the individual's perception of the objective job that is causal of his reaction to it.

Hackman and Oldham (1975) point out an increase in any of the core job dimensions will increase the M.P.S., but if any of the three major components of the M.P.S. is low, the resulting M.P.S. must also be low. Apart from the internal variations expected due to the different circumstances, conditions or settings of the work in various schools and Boards, it is proposed that a personal psychological variable, namely locus of control, will affect the individual's perception of the job and thereby modify personal and work outcomes contingent upon factors within that job.

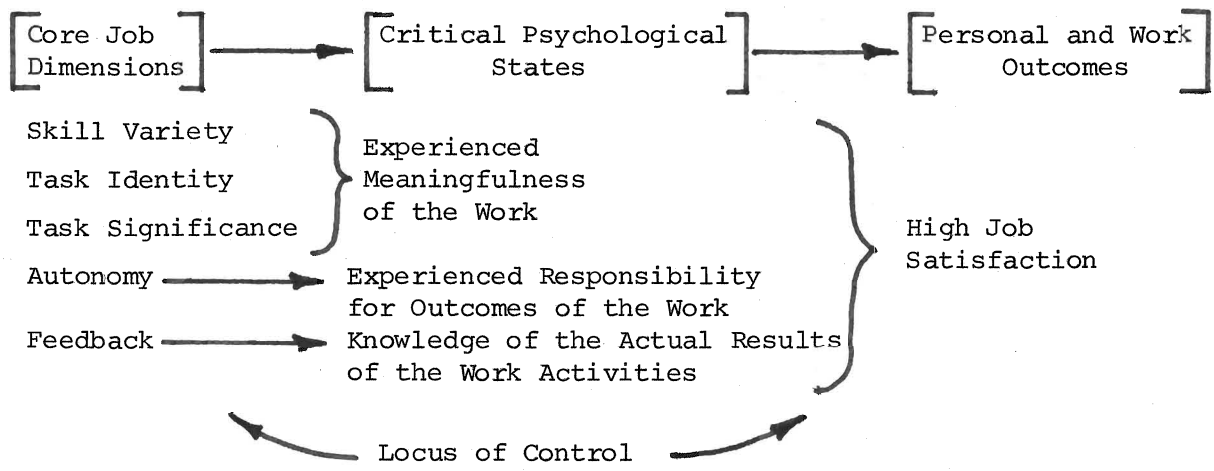
Justification for this relationship is partially derived from research by Rabinowitz and Hall (1977). They suggest that work outcomes (satisfaction, performance, etc.) are as closely related to job involvement as are personal and situational variables. In the context of the model presently being used, locus of control is seen as a stable personality variable which will be closely related to work outcomes such as job satisfaction. Rabinowitz and Hall's work outcomes of satisfaction and performance are the same as two of Hackman and Oldham's (1975) personal and work outcomes.

Thus locus of control, in the present study, is considered to be the primary moderator of the theory-specified relationships illustrated

in Figure 3. This model is a direct adaptation of Hackman and Oldham's (1975) model. However, as Figure 3 illustrates, for the purposes of the present study, the model has been simplified to include only job satisfaction under the "personal and work outcomes" heading. Job satisfaction was measured independently using Hoppock's (1935) measurement tool.

Perceptual processes differ among individuals according to clues they select from the environment. An individual's locus of control "fixes" his perceptual process to filter certain clues present in the core job dimensions. Research findings by Kimmons and Greenhaus (1976) suggest that autonomy and feedback are job dimensions that might be particularly affected by this process. The individual's predisposition for congruence between the actual job situation and his or her personal psychological orientation of control will act to reinforce this filtering process.

FIGURE 3



Staw and Oldham (1978) investigated the area of an employee's psychological compatibility with his work. They defined compatability as the degree to which the content of a job is appropriately matched to

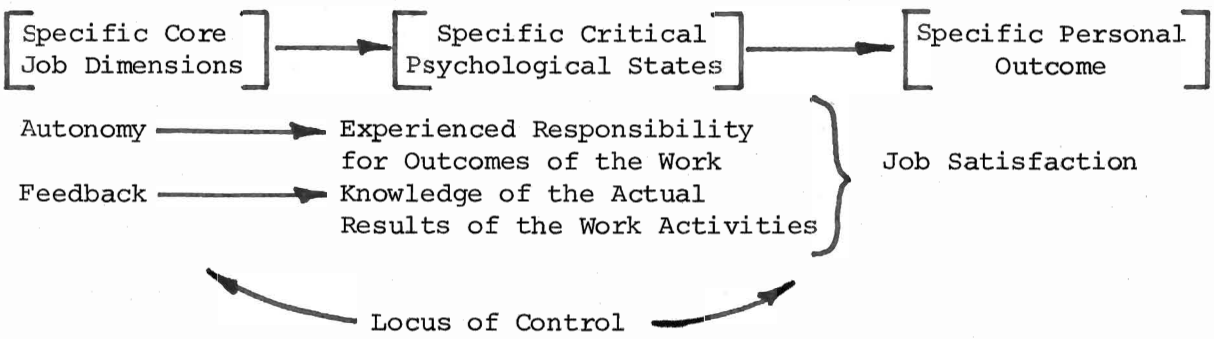
the personal characteristics (i.e., needs and goals) of a job incumbent. More specifically, individuals are believed to be in compatible situations when their jobs provide the types of opportunities that they value and desire highly.

In the present study, the definition of psychological compatibility has been expanded somewhat to incorporate an additional personal psychological variable, namely locus of control. Thus in the context of this study an individual is considered to be in a compatible job situation when the content of the job is appropriately matched to his or her personal orientation of control.

This relationship may be illustrated by applying the definition of autonomy, a core job dimension cited by Hackman and Oldham (1975). As previously indicated the definition of autonomy is the degree to which the job provides substantial feedback, independence and discretion to the employee in scheduling work and in determining the procedures to be used in carrying it out (Hackman and Oldham, 1975). An external (Rotter, 1966) may find a job inherently high in autonomy to be anxiety arousing because the potential for self growth, success or failure, is dependent upon the individual's acceptance of responsibility for the outcome of his efforts. The external, by definition partially shifts this burden of responsibility for the resulting outcomes to powerful others, fate, luck or chance. In other words, an additional element enters into the external's perception. The reinforcement that follows some action of his own is not perceived to be entirely contingent upon this action. On the other hand, an internal (Rotter, 1966) perceived to be psychologically compatible, may find a job inherently high in autonomy to be enriching and rewarding. The internal perceives contingency

relationships between outcomes and personal actions and is thus considered to be compatible in a job providing such opportunities. In other words, the internal perceives that the reinforcement follows some action of his own and is contingent upon his own behaviour. No additional element enters into the relationship as it does with the external.

FIGURE 4



This relationship is admittedly tentative. Figure 4, illustrates the specific core job dimensions that are anticipated to show a higher correlation with job satisfaction for internals than externals.

Argyris (1964) argued that individuals will experience pleasure with success only to the degree that they perceive contingency relationships between their actions and resulting outcomes. Thus the individual must perceive himself as the generator of his own success if it is to be pleasurable and rewarding to him and result in perceptions of job satisfaction. Figure 4 illustrates this relationship for what are tentatively perceived to be two key core job dimensions.

Rabinowitz (1977) states that because individual differences are more independent of satisfaction they have more potential to act as moderators of the job-satisfaction relationship. As previously stated,

locus of control is viewed as a stable individual difference characteristic that will shade the individual's perception of the core job dimensions and thereby influence the mediating critical psychological states and hence moderate the job-satisfaction relationship.

The most direct research evidence that has bearing on the present study comes from Kimmons and Greenhaus (1978). They studied the influence of employee locus of control on work attitudes. They hypothesized that locus of control would moderate the relationship between certain work characteristics, namely autonomy, feedback, performance-reward contingencies, job involvement and job satisfaction.

To measure employee locus of control, Kimmons and Greenhaus (1976) used Rotter's (1966) scale. The subgroups were classified as internals if they scored within the bottom one-third and externals if they scored within the top one-third of the distribution. As these researchers point out, this technique for subgroupings is similar to the procedure used in prior research (Mitchell, et al., 1975).

The results obtained by Kimmons and Greenhaus (1976) indicate that compared to externals, the internals perceived more autonomy, more feedback and significantly greater overall job satisfaction. These results are consistent with previous research findings (Evans, 1973; Mitchell, et al., 1975; Organ and Greene, 1974; and Runyon, 1975).

In the present study several of the work characteristics under investigation differ from those studied by Kimmons and Greenhaus (1976). The list of work characteristics in the present study was derived from Hackman and Oldham's (1975) model illustrating core job dimensions. Kimmons and Greenhaus (1976) used the Job Dimension Checklist (Suzansky,

1974) to measure the job characteristics of autonomy and feedback. Their performance-reward contingency was measured by Porter and Lawler's (1968) three-item scale, while job involvement was measured by the short-form of Lodahl and Kejner's (1965) scale.

One key to the questions raised by Kimmons and Greenhaus (1976) with regard to their results is that of pinpointing the specific levels of locus of control at which the hypotheses are to be tested. Only those in the bottom one-third and top one-third of the responses were considered to be sufficiently internal or external for the purposes of their study. This technique for subgrouping has been utilized in other studies and was therefore considered appropriate for this investigation.

It is anticipated that some of the core job dimensions will be more critical than others in illustrating the anticipated correlations. As previously discussed, autonomy and feedback are tentatively predicted to show higher correlations with job satisfaction than are skill variety, task identity and task significance, for internals as opposed to externals.

The rationale for this speculative proposal relates to Hackman and Oldham's (1975) definitions of the core job dimensions. It appears likely that internals will respond similarly to externals to the skill variety, task identity and task significance aspects of a job. It is conceivable that both internals and externals will respond positively to "enriched" jobs that are high in these particular dimensions.

However, the core job dimensions of autonomy and feedback are seen as being closely tied to the employee's perception of himself in relation to the job. Whereas the personal, self-perceptive element is seen as less obvious in the job dimensions of skill variety, task

identity and task significance. These last three dimensions appear to hinge on aspects of the job that are slightly more independent of the self. Hence the correlations between skill variety, task identity, task significance and job satisfaction are anticipated to be moderated by locus of control to a less significant degree.

As with the core job dimensions, not all of the critical psychological states are perceived to be as vital to the relationships under investigation. Experienced meaningfulness of the work, because it is linked in the theory to skill variety, task identity and task significance, is anticipated to be less indicative of the correlations under investigation. Experienced responsibility for work outcomes and knowledge of the actual results of the work activities are anticipated to be highly influential in predicting the anticipated correlations because of their direct link to the personal elements of autonomy and feedback. In short, the emphasis on outcomes, contingent upon an individual's actions, are the key in these two psychological states.

Hypotheses

Based upon the aforementioned theoretical considerations and empirical findings, the study's major hypotheses are:

1. When core job dimensions are perceived as high, job satisfaction will also be high. Conversely, when core job dimensions are perceived as low, job satisfaction will also be low.
2. An individual's locus of control will moderate his or her perception of the core job dimensions and intervening critical psychological states thereby influencing his or her perception of the degree of job satisfaction experienced: Internals will

score higher on the core job dimensions and therefore will perceive greater job satisfaction than externals.

A tentative hypothesis was also formulated to explore the relationship between specific core job dimensions and job satisfaction for internals and externals.

3. Internals will show a higher correlation for the core job dimensions, autonomy and feedback, with job satisfaction than externals.

CHAPTER III

EXPERIMENTAL DESIGN

The Instruments

All measuring instruments used in the present study have been employed in prior research.

Job Diagnostic Survey

The Job Diagnostic Survey (J.D.S.) was developed by Hackman and Oldham (1975) based on earlier work by Turner and Lawrence (1965) and by Hackman and Lawler (1971). Over a two year developmental period, the J.D.S. underwent three major revisions. Analyses were conducted to assess the validity of the theory on which the instrument is based. The research findings were incorporated to revise and refine the theory and to improve the instrument itself. The results of the tests using the J.D.S. indicate that both the internal consistency reliability of the scale and the discriminant validity of the items are satisfactory (Hackman and Oldham, 1975).

The job dimensions -- skill variety, task identity, task significance, autonomy and feedback -- are moderately positively interrelated. The job dimensions are positively related to subjective measures of work satisfaction and motivation. The measures of the critical psychological states are strongly related to those core job dimensions illustrated in the theory and predicted to affect them (Hackman and Oldham, 1975).

The J.D.S. has satisfactory psychometric characteristics. The components specified in the theory are in the predicted direction. As Hackman and Oldham (1975) noted, the reliability is increasingly

satisfactory when the instrument is used to obtain average scores of a group of five or more individuals who work on a given job. The internal consistency of each J.D.S. scale would exceed .85 for the average of the group of individuals who hold the jobs. Given the size of the current sample under investigation, (n = 1995) the internal consistency would be very favourable.

The J.D.S. consists of a battery of seven questions in which respondents are asked to describe their jobs as objectively as possible. Each question has a possible range of responses from one, indicating "very little", to seven, indicating "very much". The answer to each question in the series is tabulated and recorded independently. As well, the overall motivating potential score for each respondent is calculated using the equation illustrated:

Motivating Potential Score (M.P.S.) =

$$\left(\frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{3} \right) \times (\text{Autonomy}) \times (\text{Feedback})$$

The possible range of responses for the M.P.S. is between one and three hundred and forty-three. A tabulated score at the lower end of the range indicates a job with little motivating potential while a high score indicates a job with greater motivating potential.

Respondents are asked to indicate their response to statements such as the following:

How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1----------2----------3----------4----------5----------6----------7

Very little; the job gives me almost no personal "say" about how and when the work is done.	Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.	Very much, the job gives me almost complete responsibility for deciding how and when the work is done.

The complete instrument is given in the Appendix.

Internal-External Locus of Control

Rotter's (1966) internal-external locus of control scale was derived from social learning theory. In the developmental period various scales were built, tried and discarded. In the end, only those items were included in the measure (a) that correlated with at least one of two criteria, (b) that had low correlations with the Marlowe-Crowne Social Desirability Scale, (c) for which both alternatives were selected by college students at least 15% of the time, and (d) that correlated with the total of the other items with that item removed (Rotter, 1975).

The final scale developed was based on the contributions of Phares, Liverant, Crowne and Seeman (1975). This scale consists of 23 items and 6 filler items that sample widely different life situations where locus of control attitudes might be relevant to behaviour. Each item is weighted equally and the instrument is designed as a broad gauge instrument to allow for a low degree of prediction of behaviour across a wide range of potential situations.

In studies reported by Rotter (1966) and Joe (1971) the test-retest reliability over a one month period was quite consistent and satisfactory. The internal consistency of the scale is reasonable and the results correlate satisfactorily with other methods of assessing the same variable.

In the present study a 10-item version of the scale was used, including both positively and negatively scored items, based on the work of Valecha (1972). Respondents are asked to circle either statement A or B for each of the ten questions depending upon which response they agree with most.

The following is an example of one of the pairs of questions. The complete instrument is given in the Appendix.

A. In the long run people get the respect they deserve in this world.

B. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

The possible range of scores is between zero and ten. As described in Chapter II, the respondents were classified as internals if they scored within the bottom one-third and externals if they scored within the top one-third of the distribution. In actual testing, the internal subgroup scores were in the zero to two range and the external subgroup scores were in the six to ten range.

Job Satisfaction

McNichols, Stahl and Manley (1978) used Hoppock's (1935) job satisfaction measure to analyze a wide variety of job categories, work environments and demographic variables. They evaluated Hoppock's (1935) job satisfaction measurement tool in terms of its distribution, construct

validity, concurrent validity, convergent validity, and reliability. The researchers' data indicate that (a) the distribution of scores allows meaningful comparison of the degree of job satisfaction of different subgroups in terms of the sample mean or mode, (b) the approximate symmetry of the distribution implies there is no evidence of a response set towards highly satisfied or highly dissatisfied, (c) a continuous vice dichotomous attribute has been measured.

The authors applied Cronbach and Meehl's (1955) conditions for construct validity with favourable results. Principal component analysis and correlation matrices were used to evaluate the correlation structure of the four questions. Strong support indicated that the questions did measure a single factor and that the simple summary score yielded a univariate measure of job satisfaction.

McNichols, Stahl and Manley (1978) conclude that Hoppock's equal weighting of the responses appears to be excellent and that results of the tests further provide evidence of the usefulness of Hoppock's tool to assess job satisfaction.

The job satisfaction (Hoppock, 1935) measure consists of a battery of four questions related to various aspects of satisfaction with a person's job. The overall job satisfaction score is obtained by summing responses to four equally valued questions yielding a possible range of scores between four and twenty-eight. A score of four indicates minimal job satisfaction while a score of twenty-eight indicates maximal job satisfaction. Respondents are asked to indicate their response to statements such as the following:

Which one of the following shows how much of the time you feel satisfied with your job?

A. I hate it.
B. I dislike it.
C. I don't like it.
D. I am indifferent to it.
E. I like it.
F. I am enthusiastic about it.
G. I love it.

The complete instrument is given in the Appendix.

Table 1 presents test-retest reliabilities for the variables under investigation. In some instances, particularly autonomy, task significance and task identity, the retest results are poor. In the other cases the results appear to be satisfactory. Research by Rousseau (1978) indicates better test-retest reliabilities for these dimensions - i.e. autonomy .58, task identity .42 and task significance .41. It is highly probable that the retesting which was self-administered, as were the original tests, was conducted under different circumstances and settings. This might account for the discrepancy in results.

The Sample

Questionnaires were collected anonymously from 1995 professionals in the educational setting. The participants were teachers, department heads, vice-principals and principals from elementary schools, secondary schools, community colleges and universities in Southern Ontario. The public school boards included Dufferin County, Etobicoke, Lincoln County, Niagara South, Peel County, Simcoe, York County, Halton County and the cities of Hamilton and North York. The Roman Catholic Separate School Boards sampled included Hamilton-Wentworth, Welland and Dufferin-Peel; Sheridan, Humber and Mohawk were community colleges represented in the sample as was Brock University.

The questionnaires distributed to each participant consisted of

TABLE 1

Test-Retest Reliability Coefficients of Variables Used in the Study

N = 36 Two Months Interval

Variable	Coefficients
Skill Variety	.56
Task Identity	.35
Task Significance	.22
Autonomy	.26
Feedback from Agents	.68
Feedback from Job	.57
M.P.S.	.44
Job Satisfaction	.71
Locus of Control	.67

ninety questions related to eighteen diverse organizational variables. Certain demographic information was requested as well. Table 2 illustrates the variety of characteristics of the participants.

Data Collection Procedures

In each organization, a liaison distributed the questionnaires and cover letter from the researcher to the participants. The cover letter briefly described the aim of the research and solicited the voluntary participation of the staff members. The liaison in each case was an interested teacher currently enrolled in a Master of Education program at Brock University, St. Catharines. Each liaison was required to distribute sufficient numbers of questionnaires to ensure that fifty complete samples would be returned. Distribution occurred within each liaison's place of work or at Board offices etc. Each participant

TABLE 2

Demographic Variables

Sample: N = 1995
* - Missing Data

Sex	Male	1065	*16
	Female	911	
Education	No Degree	372	
	Bachelor	1210	*11
	Master	366	
	Ph.D.	33	
Type of School	Elementary	838	
	Secondary	975	
	Community College	107	*50
	University	20	
Job Title	Teacher	1407	
	Department Head	259	
	Vice-Principal/Principal	179	*9
	Superintendent/Director	9	
	Specialist	13	
	All Other	116	
Income	< $15,000	168	
	$15,000-$20,000	496	
	$20,000-$25,000	518	*18
	> $25,000	789	
Years of Experience	< 2 Years	150	
	3-5 Years	286	
	6-10 Years	521	*0
	>10 Years	1036	

was requested to fill out the questionnaire anonymously and independently and return it to the liaison in their particular school.

The researcher and her colleagues each completed a second, identical questionnaire two months later. This small retest sample, N = 36, provided test-retest reliability information. One limitation of the present study indicated in Table 1, is that the control group of test-retest samples demonstrate considerable scope over the range of variables tested. The two months time period might be a critical factor or the explanation

might lie within the scope of self-administered tests completed under different conditions or circumstances.

Each liaison scored the raw data from the questionnaires on master sheets, checked them and returned them to Brock University where they were processed for the computer. Each contributing liaison working on a thesis or project had access to the entire data pool. The data were analyzed using the S.P.S.S. computer program. The methods of analysis chosen in this study were similar to those used in prior research of a similar nature.

CHAPTER IV

PRESENTATION OF RESULTS

Results are reported in three sections which correspond to each of the three hypotheses. First, tests of core job dimensions and M.P.S. as related to job satisfaction measures are reported. Second, tests of core job dimensions and M.P.S. as related to job satisfaction measures and moderated by employee locus of control are reported. Third, a comparison of the significance of specific core job dimensions, skill variety, task identity, task significance, autonomy and feedback, as predictors of job satisfaction for internals and externals are reported.

Core Job Dimensions and Job Satisfaction

It was predicted that when an employee scored high on core job dimensions and M.P.S., that job satisfaction scores would also be high. Conversely, when an employee scored low on core job dimensions and M.P.S., that job satisfaction scores would also be low.

Table 3 presents descriptive data on the major variables. The means and standard deviations for each core job dimension, M.P.S. and job satisfaction are indicated for the total sample. The number of respondents for each low and high group for each core job dimension is shown in Tables 4-9. The number of respondents in each of these low and high groups for each variable is slightly different as Tables 4-9 indicate.

Tables 4-10 present descriptive data on the major variables with the criterion variable job satisfaction. As indicated in the

description of the instrument, job satisfaction scores range from a low of four, to a high of twenty-eight, over the total sample. To facilitate the analysis of variance, the criterion variable, job satisfaction, was broken down into three new groups. If actual job satisfaction scores were equal to or less than 19, the new job satisfaction score was 1; if the actual job satisfaction scores were between 20 and 22 inclusive, the new job satisfaction score was 2; if the actual job satisfaction scores were equal to or greater than 23, the new job satisfaction score was 3. Thus on the new scale, a score in the range of 1 indicates low job satisfaction while a score in the range of 3 indicates high job satisfaction.

For the core job dimensions of skill variety, task identity, task significance, autonomy and feedback, the total sample was arbitrarily divided into low and high groups so that the two groups would be roughly comparable in size. The two-group split was chosen for the analysis of these variables because the range of scores for each variable was relatively limited - between one and seven - as indicated in the description of the instrument. A three-group split consisting of low, moderate and high, was chosen for the analysis of the M.P.S., as illustrated in Table 10, because the scoring procedures yielded a possible range of scores between one and three hundred and forty-three. The low, moderate and high M.P.S. groups were arbitrarily divided in order to generate three groups of comparable size, N = 637, 698 and 651 respectively.

As Tables 4-10 indicate, for each core job dimension and M.P.S., those respondents who scored high on measures of job satisfaction also scored high on each of the core job dimensions and M.P.S. Conversely,

for each core job dimension and M.P.S., the figures indicate that those respondents who scored low on measures of job satisfaction, also scored low on each core job dimension and the M.P.S.

The hypotheses tested received strong support. In each and every case, when the core job dimensions' scores were low, the job satisfaction score was low; when the core job dimensions' scores were high, the job satisfaction score was high. In the case of the M.P.S., the predicted relationship was supported and in the predicted direction for each of the three subgroups. In the case of each variable, as well as being in the predicted direction, each relationship was highly significant ($p = < .001$).

TABLE 3

Means and Standard Deviations for Core Job Dimensions, M.P.S. and Job Satisfaction

Variable	N	Mean	Standard Deviation
Skill Variety	1988	5.50	1.32
Task Identity	1990	4.74	1.32
Task Significance	1987	5.41	1.29
Autonomy	1992	5.35	1.16
Feedback from Agents	1988	4.14	1.39
Feedback from Job	1987	5.25	1.18
M.P.S.	1981	152.83	68.35
Job Satisfaction	1986	20.92	3.28

Core Job Dimensions and M.P.S. as Moderated by Locus of Control

It was predicted that an individual's locus of control would moderate his or her perception of the core job dimensions and intervening critical psychological states, thereby influencing his or her perception

TABLE 4

Analysis of Variance: Criterion Variable Job Satisfaction by Low and High Groups of Skill Variety

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low Skill Variety	1.83	.75	498.69	889
High Skill Variety	2.26	.73	586.48	1097

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	89.79	1	164.17	$<.001$

TABLE 5

Analysis of Variance: Criterion Variable Job Satisfaction by Low and High Groups of Task Identity

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low Task Identity	1.93	.76	507.27	872
High Task Identity	2.17	.76	640.25	1114

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	27.43	1	47.43	$<.001$

TABLE 6

Analysis of Variance: Criterion Variable Job Satisfaction by Low and High Groups of Task Significance

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low Task Significance	1.88	.75	553.06	982
High Task Significance	2.25	.74	554.25	1004

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	67.65	1	121.21	$<.001$

TABLE 7

Analysis of Variance: Criterion Variable Job Satisfaction by Low and High Groups of Autonomy

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low Autonomy	1.93	.76	605.59	1039
High Autonomy	2.22	.75	526.87	947

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	42.49	1	74.45	$<.001$

TABLE 8

Analysis of Variance: Criterion Variable Job Satisfaction by Low and High Groups of Feedback from Agents

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low Feedback from Agents	1.92	.77	706.51	1201
High Feedback from Agents	2.30	.71	398.65	785

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	69.80	1	125.31	$<.001$

TABLE 9

Analysis of Variance: Criterion Variable Job Satisfaction by Low and High Groups of Feedback from the Job

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low Feedback from the Job	1.93	.76	634.21	1112
High Feedback from the Job	2.24	.75	495.97	874

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	44.78	1	78.61	$<.001$

TABLE 10

Analysis of Variance: Criterion Variable Job Satisfaction by Low, Moderate and High Groups of M.P.S.

Description of Subpopulation				
Variable	Mean	Standard Deviation	Sum of Square	N
Low M.P.S.	1.75	.74	348.30	637
Moderate M.P.S.	2.06	.73	368.09	698
High M.P.S.	2.38	.72	333.04	651

Analysis of Variance				
	Sum of Squares	D.F.	F-Value	Significance
Between Groups	125.51	2	118.58	$<.001$

of the degree of job satisfaction experienced. Internals were expected to score higher on the core job dimensions and therefore perceive greater overall job satisfaction than externals.

Table 11 presents descriptive data on the major variables with the criterion variable locus of control. The means and standard deviations for each core job dimension plus the M.P.S. and job satisfaction are indicated for the total sample (N = 1981-1990).

Table 12 presents descriptive data for each variable broken down into internal and external subgroups. With regard to locus of control subgroups, respondents were classified as internals if their score was two or less and externals if their score was six or more. This technique for subgroupings so that the bottom one-third of the sample distribution is classified as internals and the top one-third of the sample distribution is classified as externals, is similar to the procedure used in prior research (Kimmons and Greenhaus, 1976; Mitchell, et al., 1975). The

exact number of respondents for the total sample is shown in Table 11; the number of internal and external respondents for each variable is shown in Table 12. As this table indicates the number of internal and external respondents differ slightly for each variable.

As Table 12 indicates, compared to externals, the internals perceived more skill variety, more task identity, more task significance, more autonomy and more feedback from both agents and the job itself. As well, compared to externals, the internals perceived their jobs to have greater motivating potential and to provide greater overall job satisfaction.

The hypotheses tested received strong support. In each and every case locus of control moderated the relationships in the predicted manner. In each instance the data provided are highly significant ($p = <.001$).

In comparing the mean scores of the total sample with that of the internal and external subgroups, it is apparent that the externals' mean scores were the lowest, the total sample's mean scores were in the middle range and the internals' mean scores were the highest. The M.P.S. figures for internals compared to externals indicate the impact of the relatively small, though significant differences in scores for each core job dimension. The difference in M.P.S. between the two groups is 34.97. The difference in job satisfaction scores between the two groups, though relatively small, 1.11, is highly significant ($p = <.001$) as well.

Correlations for Specific Core Job Dimensions and Job Satisfaction

It was tentatively predicted that certain core job dimensions,

TABLE 11

Means and Standard Deviations for Core Job Dimensions, M.P.S. and Job Satisfaction: Criterion Variable is Locus of Control

Variable	N	Mean	Standard Deviation
Skill Variety	1988	5.50	1.32
Task Identity	1990	4.74	1.32
Task Significance	1987	5.41	1.29
Autonomy	1992	5.35	1.16
Feedback from Agents	1988	4.14	1.39
Feedback from Job	1987	5.25	1.18
M.P.S.	1981	152.83	68.35
Job Satisfaction	1986	20.92	3.28

TABLE 12

T-Test: Criterion Variable Locus of Control by Core Job Dimensions, M.P.S. and Job Satisfaction

Variable	I/E	N	Mean	Standard Deviation	T-Value	2-Tail Probability
Skill Variety	I	485	5.64	1.30		
	E	628	5.25	1.44	4.70	<.001
Task Identity	I	485	4.91	1.27		
	E	629	4.46	1.34	5.59	<.001
Task Significance	I	485	5.55	1.21		
	E	628	5.16	1.41	4.79	<.001
Autonomy	I	486	5.50	1.07		
	E	629	5.08	1.24	5.90	<.001
Feedback from Agents	I	485	4.34	1.38		
	E	628	3.86	1.38	5.78	<.001
Feedback from Job	I	485	5.48	1.10		
	E	628	4.95	1.28	7.17	<.001
M.P.S.	I	483	167.62	68.78		
	E	626	132.65	68.11	8.44	<.001
Job Satisfaction	I	483	21.25	3.00		
	E	629	20.14	3.92	5.14	<.001

namely autonomy and feedback, both from agents and the job itself, would show a higher correlation with job satisfaction for internals than externals. Specifically internals were expected to respond to a significantly greater degree to the job dimensions of autonomy and feedback than externals. Internals were not expected to respond differently than externals to the core job dimensions of skill variety, task identity and task significance.

With regard to locus of control subgroups, respondents were classified as internals if their score was two or less and externals if their score was six or more. This is the same technique for sub-groupings that was used and described in the testing of hypothesis 2.

Tables 13 and 14 present the descriptive data on the major variables. Table 13 indicates that the correlations for the total sample are positive and generally significant, but small in magnitude. However, as Table 14 indicates, the correlations are not systematically greater for internals than externals for the specific core job dimensions isolated and tentatively predicted to be of particular significance - autonomy, feedback from agents and feedback from the job itself. Only in the case of feedback from agents was the correlation greater for internals than for externals. The core job dimensions of skill variety, task identity and task significance were expected to correlate with measures of job satisfaction to a similar degree for internals and externals. The figures indicate that the correlations for these particular core job dimensions are slightly greater for externals compared to internals. The tentative hypothesis formulated to explore the relationships described received no support.

TABLE 13

Pearson Correlations Between Core Job Dimensions and Job Satisfaction for the Total Sample

Variable	N	Coefficient
Skill Variety	1982	0.33
Task Identity	1984	0.20
Task Significance	1982	0.32
Autonomy	1986	0.28
Feedback from Agents	1982	0.34
Feedback from Job	1982	0.26

NOTE - All coefficients significant at p = 0.001.

TABLE 14

Pearson Correlations Between Core Job Dimensions and Job Satisfaction for Internals and Externals

Variable	I/E	N	Coefficient
Skill Variety	I	482	0.31
	E	651	0.35
Task Identity	I	482	0.15
	E	652	0.23
Task Significance	I	482	0.26
	E	651	0.37
Autonomy	I	483	0.22
	E	652	0.31
Feedback from Agents	I	482	0.37
	E	651	0.36
Feedback from Job	I	482	0.21
	E	651	0.24

NOTE - All coefficients significant at p = 0.001

CHAPTER V

DISCUSSION OF RESULTS

Core Job Dimensions and Job Satisfaction

The results of the investigation detailed in the previous chapter indicate that when employees perceive core job dimensions to be high, job satisfaction is also high. The converse is equally true in that employees who perceive core job dimensions to be low, also report low job satisfaction. These research findings are supportive of the findings outlined by Hackman and Oldham (1975), Hackman and Lawler (1971), and Stone and Porter (1975).

The results of the present study, though they confirm earlier research reports, were arrived at using an adaptation of Hackman and Oldham's (1975) model relating core job dimensions, critical psychological states and various personal and work outcomes. The present investigation examined the core job dimensions individually with the criterion variable job satisfaction which was measured independently using Hoppock's (1935) scale. As well, Hackman and Oldham's (1975) M.P.S. equation was computed and the results analyzed with Hoppock's measure of job satisfaction. The other personal and work outcomes illustrated in Hackman and Oldham's (1975) original model were not considered. Also employee growth need strength was not considered a moderating variable of the theory specified relationships. As indicated in the second hypothesis under investigation in the present study, an alternate moderator was tested for this relationship.

The Job Diagnostic Survey (Hackman and Oldham, 1975) was designed with the aim of using it to diagnose jobs so that they could be enriched to yield positive personal and work outcomes. Research by Umstot (1976) indicates that enrichment of core jobs dimensions can be done with relative ease and that job enrichment is indeed a viable strategy for producing change in organizations.

Hackman and Oldham (1980), on the other hand, discuss some of the limitations of work redesign. In their estimation, only organizations that are currently relatively well designed and well managed are likely to meet the conditions required for successful use of work redesign as a strategy for programmed change in relatively stable systems. Yet they acknowledge that how work is structured powerfully affects the lives of organizational members and organizational productivity. While providing both an optimistic and pessimistic overview of work redesign, Hackman and Oldham endorse work redesign and outline three alternatives to the use of work redesign. Each alternative offers an opportunity to bring the principles of work redesign to bear on the life and work of people in organizations.

These findings have interesting applications for the teaching profession. Job satisfaction is not a static component - it is rather, a dynamic response to one's job at a given period of time that presumes the ability to balance the specific satisfactions against the specific dissatisfactions and thus arrive at a composite satisfaction response to the job as a whole.

As teachers continue to function in an increasing oppressive climate due to declining enrolments, reduced ability to transfer freely, and provincial cut backs, it is conceivable that in general, levels of

job satisfaction might diminish. Under such adverse conditions, a planned enrichment program designed to increase the core job dimensions' scope, might alleviate or offset some of the inherent external dissatisfiers.

Core Job Dimensions and M.P.S. as Moderated by Locus of Control

The results of the investigation described in the previous chapter indicate that compared to externals, internals perceived more skill variety, more task identity, more task significance, more autonomy, more feedback, greater motivating potential scores and greater overall job satisfaction. This research finding is supportive of some of the findings outlined by Kimmons and Greenhaus (1976).

The results of the present study confirm Kimmons and Greenhaus' (1976) findings relating to autonomy, feedback and job satisfaction. However, the scope of the present study was slightly different from Kimmons and Greenhaus' study and also indicates differences in perception of other core job dimensions for internals and externals. These authors did not consider skill variety, task identity, task significance and motivating potential score. The present investigation confirms that perceptions of those dimensions of a job do differ for internals and externals and that internals compared to externals score higher on each dimension.

The method used to determine subgroups of internals and externals in the present study was the same as the method used by Kimmons and Greenhaus. The total sample in the present study (N = 1995) was considerably greater than that used by Kimmons and Greenhaus, (N = 193). Also the subgroups, internals, N = 483-486, externals, N = 682-689, were

larger in scope than their sample of 58 internals and 69 externals.

In the present study Hoppock's (1935) measure of job satisfaction was used while in Kimmons and Greenhaus' study, Hackman and Lawler's (1971) three-item measure of overall job satisfaction and the Work Itself subscale of the Job Description Index (Smith, Kendall and Hulin, 1969) were used. Hoppock's job satisfaction measure seems particularly appropriate for the present sample given that it was developed and tested on over five hundred teachers among others.

The implications of the present research findings are interesting viewed in the light of H. Russell Johnston's model, Figure 5. Johnston maintains that individuals faced with a common environment perceive it differently, and these differences in perception are stongly related to particular dimensions of the individual's personality. Johnston labelled one of his personality variables as "activity-passivity". He felt that this dimension related directly to the individual's ability to establish and maintain a satisfying and productive relationship with his environment.

FIGURE 5

Argyris (1964) and White (1963) stressed the importance of the individual's capacity to take effective action, as opposed to feeling acted upon in achieving a sense of competence and satisfaction. Literature on locus of control cited by Johnston contains evidence that an internal expectancy reflects a propensity to influence one's

environment in an active manner (Joe, 1971; Lefcourt, 1966, 1972; Rotter, 1966, 1972). It is conceivable, therefore, that Johnston's activity-passivity personality dimension is a function of locus of control. It would suggest then, that locus of control is a personality variable, that together with situational variables, jointly determine perception and therefore influence behaviour.

Contrary to earlier assumptions made in the present study, research by Andrisani and Nestel (1976)suggests that internal-external expectancies not only change over time, but that the change is in response to changing experience at the work place. Their research indicates that individuals may become more internal in response to advancement in occupational status, salary increase and re-entry into the labour force. On the other hand, individuals show an increasing tendency toward external control under adverse or unfavourable work experience.

One might make two different assumptions based on Andrisani and Nestel's research. First, it is conceivable that the factors in the work environment cited by these researchers, rather than alter locus of control of reinforcement to a substantial degree, alter an employee's self-concept which in turn has a positive or negative affect on his self-assessment in relation to his job. Thus it is possible to maintain that rather than a fundamental personality change, such as locus of control, the individual has undergone an attitudinal change that might have rather limited implications.

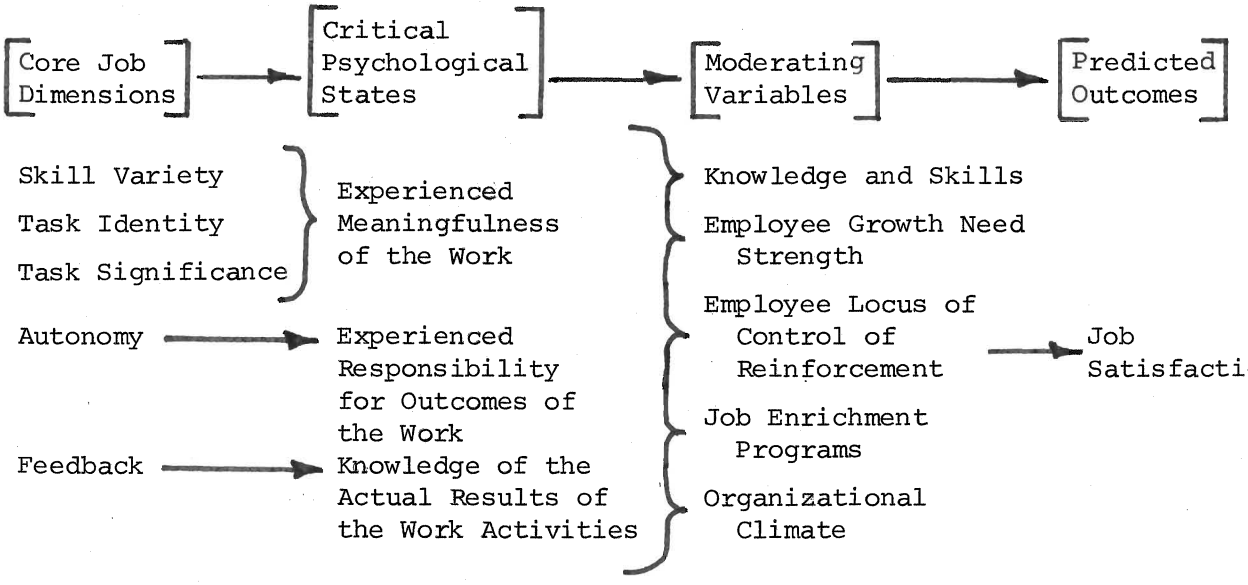
Second, it is conceivable that the factors cited by Andrisani and Nestel (1976) do in fact alter an individual's locus of control of reinforcement. Given this assumption and the findings of the present

research it would be advisable to try to manipulate the work environment in such a way as to increase the tendency of employees toward internal locus of control.

One drawback to this was suggested in the discussion. Work environments for teachers are becoming progressively more restrictive due to external factors operating within the environment. According to Andrisani and Nestel (1976) this progression of events has the ability to alter locus of control toward the external end of the scale. This, in light of the present research findings, would diminish perceptions of job satisfaction for teachers.

In view of the results and discussion of the first two hypotheses in the present study, a more complex model illustrating the various relationships under investigation might be tested in future research. These relationships are illustrated in Figure 6.

FIGURE 6



Correlations for Specific Core Job Dimensions and Job Satisfaction

The results of the investigation described in the previous chapter

indicate the correlations between core job dimensions and job satisfaction were not systematically greater for internals than externals. The hypothesis received no support. Kimmons and Greenhaus (1976) report similar results in that locus of control did not moderate the relationship between each of the work characteristics they studied and job satisfaction.

The questions they raised might well be raised in the context of the present study. Given that locus of control did affect perception of core job dimensions, M.P.S. and job satisfaction so that internals, compared to externals, scored higher on each variable; then why did the individual components of the job not show a correlation with job satisfaction that was systematically greater for internals than externals?

Obviously because of the positive correlations for both groups, externals are not adverse to autonomy and feedback etc. Possibly other personality components, for example, growth need strength, as well as situation variables, should be tested to at least partially determine the missing components in the relationship. The bulk of the variance has not been accounted for because the highest correlations reported were 0.37 for task significance for externals and 0.37 for feedback from agents for internals.

In the field of organizational behaviour, and the social sciences in general, survival and progress are often based on such imprecision. Lent et al. (1971) discovered that the median sample size for over four hundred published validity studies was 68. Schmidt et al. (1976) wisely caution that the sample size necessary to produce adequate power in validation studies is substantially greater than typically assumed

and employed. Given the size of the present sample currently under investigation (N = 1995), the emphasis on empirical results cannot be faulted. With such a large data pool even small correlations become significant as the computer results testify. At times correlations and differences between means reported in social science journals are of relatively small magnitude.

To overcome the problems encountered in testing the third hypothesis, future research might focus on longitudinal studies examining variations in locus of control of reinforcement over time. As well it would be interesting to observe, over time, the effects of "enriched" jobs on both internals and externals. As previously stated large sample sizes would be necessary to validate the results.

Limitations of the Study

Although a very large sample, N = 1995, was tested, the present study has a number of limitations. Approximately 79% of the potential respondents returned usable questionnaires. As the demographic data indicate, the computer was programmed to accept missing data where applicable and if it would not affect the validity of the results. For example, if one section of a question was not answered that question was totally rejected but other questions from the same questionnaire which were answered completely were processed and utilized.

Obviously the respondents were highly motivated as it required approximately one half hour to complete the questionnaire. Non-respondents might have been slightly more negative, however, it is unlikely that they would have given sufficiently different responses to affect the overall data.

Although the questionnaires were anonymous, some respondents might have been intimidated by the demographic variables which could conceivably indicate the identity of a particular individual, especially in the smaller schools. This drawback might have coloured some of the results. However, in cases where embarrassment might have arisen, demographic variables might have been omitted.

The length of time required to complete the questionnaire and the requirement of anonymity might have necessitated a variety of settings when respondents were completing the questionnaires. Also participants had the questionnaires over a period of days and might not have completed them in one setting according to instructions. These lack of controls, though not seen as a serious drawback, could affect the results to a limited degree.

Another limitation to the present study is its use of measuring instruments, such as the Job Diagnostic Survey, which were not designed specifically for the analysis of teaching jobs. However, this researcher felt that it was particularly effective for the purposes of the present study for the reasons suggested in the Review of the Literature. Other researchers might differ in their opinion or develop an instrument more specific to the educational setting.

Rotter's I-E Locus of Control scale was used in an abbreviated form which might have affected the results to a slight degree. However, it is unlikely that responses would have varied to a significant enough degree to change an individual's subgrouping from that of internal to external or visa versa. The number of variables tested by the questionnaire used did not permit the use of every long-form measuring instrument available. All instruments used in the present study have been employed

in prior research in both their long and abbreviated forms.

One final drawback of the present study might have been the use of a "broad" demographic field. Future research might refine some of the present findings by breaking down the present study according to hierarchical levels of teachers or by institutions. In a preliminary investigation such as the present one, this kind of refinement was not felt to be appropriate.

CHAPTER VI

SUMMARY AND CONCLUSIONS

In conclusion, the present study's findings showed that when employees scored high on core job dimensions using Hackman and Oldham's (1975) Job Diagnostic Survey, they also scored high on measures of job satisfaction. The converse of this relationship is also true.

Locus of control did moderate the theory specified relationships illustrated in Hackman and Oldham's (1975) model linking core job dimensions, critical psychological states and personal and work outcomes, one of which, job satisfaction, was measured independently. Compared to externals, the internal locus of control subgroup, scored higher on each core job dimension and reported greater overall job satisfaction.

Contrary to expectation, internals, when compared with externals, did not demonstrate a systematically greater correlation with job satisfaction for the specific core job dimensions of autonomy, feedback from agents, and the job itself.

Although findings from this study are hardly sufficient to claim generality, those findings that were replicated might well represent a general phenomenon especially in light of the magnitude of the present sample.

The means and standard deviations for several job families, as researched by Hackman and Oldham (1980), are presented in Table 15. The means and standard deviations for the same variables derived from the present sample of educators is also illustrated. Hackman and Oldham's data, although not presented in its entirety in this paper, were obtained from 6930 employees from 56 organizations throughout the

United States (Hackman and Oldham, 1980).

The results obtained in the present study compare favourably with those obtained by Hackman and Oldham (1980). It is interesting to note, however, that the present sample, compared to Hackman and Oldham's sample, scored lower on the job dimension of task signficance. It is especially surprising to see that educators, in comparison to other professionals, perceive that their jobs have slightly less impact on the lives or work of other people.

As Hackman and Oldham point out, how the objective properties of jobs relate to the individual's perception of those properties is not completely clear. It is known that people "redefine" their jobs to be consistent with their personal needs, attitudes and values, and in response to cues or direct influence from other people. Possibly this may explain the perceived lower level of task significance for educators compared to other professionals. There may well be a discrepancy between the degree of task significance that teachers expect to perceive and actually perceive on the job. This discrepancy might lead them to evaluate their jobs rather harshly in comparison to other professionals who do not perceive such a discrepancy because their expectations of task significance are not so great.

The major theoretical significance of these findings concerns the usefulness of utilizing a model, such as Hackman and Oldham's (1975), in the educational setting. This type of model, with the different variations illustrated, permits the introduction and testing of a number of personal and organizational variables which might enhance understanding of the complex array of factors affecting levels of job satisfaction.

The major practical significance of the findings concerns the usefulness of discovering at least some of the factors that affect job satisfaction and the degree to which these correlate with measures of job satisfaction. In a society that is becoming increasingly complex, static and restrictive as far as teachers are concerned, it is probable that a greater proportion of teachers in the future will perceive changes in their levels of job satisfaction. If the thrust of job satisfaction levels is downward because of tightening of the educational climate, there will have to be new strategies employed within the field to offset this thrust. If locus of control of reinforcement continues to exhibit important job satisfaction implications as it did in the present study, and if locus of control can be modified, altering this construct may become an important part of future teacher development efforts in applied settings.

The findings reported here suggest some appropriate directions and strategies for measuring and increasing job satisfaction among teachers. Job satisfaction might be increased through job enrichment or the manipulation of the work environment to increase the tendencies of educators toward an internal locus of control.

TABLE 15

Job Diagnostic Survey Means and Standard Deviations for Several Job Families as Reported by Hackman and Oldham, Compared to the Present Sample

Variable	Professional or Technical		Managerial		Service		Educators	
	M.	S.D.	M.	S.D.	M.	S.D.	M.	S.D.
Skill Variety	5.4	1.0	5.6	0.94	5.0	1.4	5.5	1.3
Task Identity	5.1	1.2	4.7	1.1	4.7	1.2	4.7	1.3
Task Significance	5.6	0.95	5.8	0.85	5.7	1.0	5.4	1.3
Autonomy	5.4	1.0	5.4	0.92	5.0	1.2	5.3	1.2
Feedback from Job	5.1	1.1	5.2	1.0	5.1	1.2	5.2	1.2
Feedback from Agents	4.2	1.4	4.4	1.2	3.8	1.6	4.1	1.4
M.P.S.	154.0	55.0	156.0	55.0	152.0	70.0	152.0	68.0

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APPENDIX A

Locus of Control

Mean - 4.359
Standard Error - 0.054
Standard Deviation - 2.376
Minimum - 0.000
Maximum - 10.000
Valid Cases - 1967
Missing Cases - 26

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
0	65	3.3	3.3	3.3
1	176	8.8	8.9	12.3
2	245	12.3	12.5	24.7
3	282	14.1	14.3	39.0
4	291	14.6	14.8	53.8
5	279	14.0	14.2	68.0
6	254	12.7	12.9	80.9
7	150	7.5	7.6	88.6
8	123	6.2	6.3	94.8
9	74	3.7	3.8	98.6
10	28	1.4	1.4	100.0
88	26	1.3	missing	
	1993	100.0	100.0	

APPENDIX B

Job Satisfaction

Mean - 20.915
Standard Error - 0.074
Standard Deviation - 3.281
Minimum - 4.000
Maximum - 28.000
Valid Cases - 1986
Missing Cases - 7

CODE	FREQUENCY	ADJUSTED PCT	CUMULATIVE PCT
5	1	0	0
7	3	0	0
8	1	0	0
9	7	0	1
10	6	0	1
11	5	0	1
12	19	1	2
13	14	1	3
14	23	1	4
15	45	2	6
16	49	2	9
17	69	3	12
18	113	6	18
19	170	9	26
20	261	13	40
21	270	14	53
22	271	14	67
23	285	14	81
24	195	10	91
25	113	6	97
26	39	2	99
27	18	1	100
28	8	0	100
88	7		

APPENDIX C

Task Identity

Mean - 4.735
Standard Error - 0.029
Standard Deviation - 1.316
Minimum - 1.000
Maximum - 7.000
Valid Cases - 1990
Missing Cases - 3

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
1	22	1.2	1.2	1.1
2	82	4.1	4.1	5.2
3	181	9.1	9.1	14.3
4	590	29.6	29.6	44.0
5	548	27.5	27.5	71.5
6	372	18.7	18.7	90.2
7	195	9.8	9.8	100.0
88	3	0.2	missing	
	1993	100.0	100.0	

APPENDIX D

Skill Variety

Mean - 5.503
Standard Error - 0.030
Standard Deviation - 1.319
Minimum - 1.000
Maximum - 7.000
Valid Cases - 1988
Missing Cases - 5

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	AJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
1	16	0.8	0.8	0.8
2	29	1.5	1.5	2.3
3	83	4.2	4.2	6.4
4	338	17.0	17.0	23.4
5	425	21.3	21.4	44.8
6	539	27.0	27.1	71.9
7	558	28.0	28.1	100.0
88	5	0.3	missing	
	1993	100.00	100.00	

APPENDIX E

Task Significance

Mean - 5.408
Standard Error - 0.029
Standard Deviation - 1.292
Minimum - 1.000
Maximum - 7.000
Valid Cases - 1987
Missing Cases - 6

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
1	11	0.6	0.6	0.6
2	22	1.1	1.1	1.7
3	110	5.5	5.5	7.2
4	351	17.6	17.7	24.9
5	490	24.6	24.7	49.5
6	513	25.7	25.8	75.3
7	490	24.6	24.7	100.0
88	6	0.3	missing	
	1993	100.0	100.0	

APPENDIX F

Autonomy

Mean - 5.347
Standard Error - 0.026
Standard Deviation - 1.161
Minimum - 1.000
Maximum - 7.000
Valid Cases - 1992
Missing Cases - 1

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
1	10	0.5	0.5	0.5
2	22	1.1	1.1	1.6
3	53	2.7	2.7	4.3
4	386	19.4	19.4	23.6
5	571	28.7	28.7	52.3
6	610	30.6	30.6	82.9
7	340	17.1	17.1	100.0
88	1	0.1	missing	
	1993	100.0	100.0	

APPENDIX G

Feedback from Agents

Mean - 4.136
Standard Error - 0.031
Standard Deviation - 1.389
Minimum - 1.000
Maximum - 7.000
Valid Cases - 1988
Missing Cases - 5

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
1	97	4.9	4.9	4.9
2	180	9.0	9.1	13.9
3	236	11.8	11.9	25.8
4	691	34.7	34.8	60.6
5	480	24.1	24.1	87.7
6	235	11.8	11.8	96.5
7	69	3.5	3.5	100.0
88	5	0.3	missing	100.0
	1993	100.0	100.0	

APPENDIX H

Feedback from the Job

Mean - 5.247
Standard Error - 0.027
Standard Deviation - 1.184
Minimum - 1.000
Maximum - 7.000
Valid Cases - 1987
Missing Cases - 6

CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PCT)	ADJUSTED FREQUENCY (PCT)	CUMULATIVE FREQUENCY (PCT)
1	9	0.5	0.5	0.5
2	32	1.6	1.6	2.1
3	86	4.3	4.3	6.4
4	374	18.8	18.8	25.2
5	612	30.7	30.8	56.0
6	580	29.1	29.2	85.2
7	294	14.8	14.8	100.0
88	6	0.3	missing	100.0
	1993	100.0	100.0	

APPENDIX I

Locus of Control

Please respond to items 23 to 32 by circling either statement A or B depending upon which response you agree with most. Please circle only one of the two statements appearing in each pair, and please be careful to avoid missing any pair of items. The questions relate to your beliefs about people and life in general.

23. A In the long run people get the respect they deserve in this world.
    B Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

24. A The idea that teachers are unfair to students is nonsense.
    B Most students don't realize the extent to which their grades are influenced by accidental happenings.

25. A Becoming a success is a matter of hard work, luck has little or nothing to do with it.
    B Getting a good job depends mainly on being in the right place at the right time.

26. A The average citizen can have an influence in government decisions.
    B This world is run by the few people in power, and there is not too much the little guy can do about it.

27. A In my case, getting what I want has little or nothing to do with luck.
    B Many times we might just as well decide what to do by flipping a coin.

28. A Who gets to be the boss often depends on who was lucky enough to be in the right place first.
    B Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

29. A Most people don't realize the extent to which their lives are controlled by accidental happenings.
    B There really is no such thing as "luck".

30. A In the long run the bad things that happen to us are balanced by the good ones.
    B Most misfortunes are the result of lack of ability, ignorance, laziness or all three.

31. A Many times I feel that I have little influence over the things that happen to me.
    B It is impossible for me to believe that chance or luck plays an important role in my life.

32. A What happens to me is my own doing.
    B Sometimes I feel that I don't have enough control over the direction my life is taking.

APPENDIX J

Job Satisfaction

Four questions relate to your job satisfaction. Please circle one response for each question.

70. Which one of the following shows how much of the time you feel satisfied with your job?

A. Never
B. Seldom
C. Occasionally
D. About half of the time
E. A good deal of the time
F. Most of the time
G. All of the time

71. Choose the one of the following statements which best tells how well you like your job.

A. I hate it.
B. I dislike it.
C. I don't like it.
D. I am indifferent to it.
E. I like it.
F. I am enthusiastic about it.
G. I love it.

72. Which one of the following best tells how you feel about changing your job?

A. I would quit this job at once if I could.
B. I would take almost any other job in which I could earn as much as I am earning now.
C. I would like to change both my job and my occupation.
D. I would like to exchange my present job for another one.
E. I am not eager to change my job, but I would do so if I could get a better job.
F. I cannot think of any jobs for which I would exchange.
G. I would not exchange my job for any other.

73. Which one of the following shows how you think you compare with other people?

A. No one dislikes his job more than I dislike mine.
B. I dislike my job much more than most people dislike theirs.
C. I dislike my job more than most people dislike theirs.
D. I like my job about as well as most people like theirs.
E. I like my job better than most people like theirs.
F. I like my job much better than most people like theirs.
G. No one likes his job better than I like mine.

APPENDIX K

Job Diagnostic Survey

This part of the questionnaire asks you to describe your job, as objectively as you can. Circle the number which is the most accurate description of your job.

47. To what extent does your job require you to work closely with other people (either students, or people in related jobs in your own organization)?

1--------2--------3--------4--------5--------6--------7

Very little; dealing with other people is not at all necessary in doing the job.	Moderately; some dealing with others is necessary.	Very much; dealing with other people is an absolutely essential and crucial part of doing the job.

48. How much autonomy is there is your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1--------2--------3--------4--------5--------6--------7

Very little; the job gives me almost no personal "say" about how and when the work is done.	Moderate autonomy; many things are standardized and not under my control, but I can make some decisions about the work.	Very much; the job gives me almost complete responsibility for deciding how and when the work is done.

49. To what extent does your job involve doing "identifiable work"? That is, does your job constitute only a small part of the overall service we perform in education?

1--------2--------3--------4--------5--------6--------7

My job is only a part of the overall service we perform in education; the results of my activities cannot be seen in the student (or institution).	My job is a moderate-sized chunk of the overall service we perform; my own contribution can be seen.	My job involves doing most of the overall service we perform; the results of my activities are easily seen in the student (or institution).

50. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1--------2--------3--------4--------5--------6--------7

My job is only a part of the overall service we perform in education; the results of my activities cannot be seen in the student (or institution).	Moderate variety	Very much; the job requires me to do many different things, using a number of my skills and talents.

51. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1--------2--------3--------4--------5--------6--------7

Not very significant; the outcomes of my work are not likely to have important effects on other people.	Moderately significant	Highly significant; the outcomes of my work can affect other people in very important ways.

52. To what extent do your superiors or co-workers let you know how well you are doing on your job?

1--------2--------3--------4--------5--------6--------7

Very little; people almost never let me know how well I am doing.	Moderately; sometimes people may give me "feedback"; other times they may not.	Very much; supervisors or co-workers provide me with almost constant "feedback" about how well I am doing.

53. To what extent does doing the job itself provide you with information about your work performance? That is, does the actual work itself provide clues about how well you are doing -- aside from any "feedback" co-workers or supervisors may provide?

1--------2--------3--------4--------5--------6--------7

Very little; the job itself is such that I could work forever without finding out how well I am doing.	Moderately, sometimes doing the job provides "feedback" to me; sometimes it does not.	Very much; the job is set up so that I get almost constant "feedback", as I work, about how well I am doing.